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Female Managers in Hybrid Organizations:

Evidence from Financial Cooperatives in Senegal*

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Abstract

This paper brings new insights on gender interaction in the management of hybrid organizations. Our database comes from *Union des Mutuelles du Partenariat pour la Mobilisation de l'Epargne et du Crédit au Sénégal* (UM-PAMECAS), a Senegalese network made of 38 financial cooperatives providing 419,602 members with micro-loans. We use fixed-effect panel estimation to analyze the interplay of female/male-dominated boards with female/male managers. The regressions explain the average loan size and the proportion of loans granted to women. Our results show that male managers mitigate the social orientation of female-dominated boards. In contrast, female managers tend to enhance this orientation. More puzzling is the influence of female managers associated with male-dominated boards. In this case, the presence of a female manager increases the average loan size and reduces the proportion of loans granted to women. In sum, female managers tend to align their objectives on those of the local board even though their hierarchy is at the central level. They avoid as much as possible conflicts with their local board members.

1. Introduction

Financial cooperatives (FCs) are hybrid organizations combining banking activities with democratic governance.[1] This unusual combination makes FCs fertile ground for examining the behavior of women in leadership positions. On the one hand, the financial sector is knowingly male-dominated and plagued by gender stereotypes (Ogden *et al*., 1985; Petit, 2007). Women hardly access leadership positions in banks (Özbilgin and Woodward, 2004). On the other, organizations benefitting from internal democracy are more open-minded toward female leadership. Gender imbalances in top management exist in non-profit organizations but they are less pronounced than in private companies (Lyon and Humbert, 2012).

Female participation in leadership role is often advocated as a significant driver of firm performance (Oakley, 2000; Krishnan *et al*., 2005; Smith et *al*., 2006). Female leaders seem to differ from men in management style. A meta-analysis leads Eagley and Johnson (1990, p. 233)[2] to the conclusion that women in leadership positions tend to "adopt a more democratic or participative style and a less autocratic or directive style" than their male counterparts. Interestingly, Druskat (1994) and Meinhard and Foster (2003) observe similar characteristics in non-profit institutions. However, the precise way female top managers influence profits or social performances remains poorly elucidated, let alone situations where the two bottom lines clash. We bridge the gap by exploiting a detailed hand-collected database covering the second largest network of FCs in Senegal.

This paper addresses the attitude of female leaders in organizations where tensions prevail between social and financial objectives. Although FCs are fit to study the governance of this type of organizations, few papers take that stance, probably because exhaustive micro-data is lacking. Exceptions include MCKillop *et al.* (2003) who analyze the impact of women participation in Irish FCs. The authors provide evidence of male predominance in governance bodies. Women are more present in member-interface positions than in strategic and top-management ones. These results are

[1] See Jones and Kalmi (2009) for a worldwide survey on the cooperative sector.
[2] This analysis was later supplemented by Eagly and Johannesen-Schmidt (2001).

in line with the gender imbalance observed in democratic institutions by Miller *et al*. (1982) and Heenan and McLaughlin (2002). Closer to our topic, Mayoux (2001) studies a Cameroonian network of 22 local FCs. She finds out that the majority of savers are female whereas women are underrepresented in the governance bodies. Concurrently, female savings are recycled into low-interest loans to men. The author stresses that female leaders sometimes contribute to gender inequalities. However, the evidence rests upon two female-governed FCs only. By working with a larger network and using time variations of both the composition of the FCs governing bodies and the characteristics of the granted loans, we deliver a more nuanced –and likely more robust– picture.

Our unique database comes from a network of 38 Senegalese local cooperatives (LCs) grouped under the authority of a central union (CU). In May 2010, the network was serving over 400,000 members, whom 53% are women. The governance structure of the network rests upon a subtle mix of centralization and decentralization. At the central level, the CU takes care of the financial sustainability of the network. Importantly, the CU executive team is in charge of the human resource management. At the local level, each LC democratically elects its own board. Logically, local boards prioritize their members' satisfaction over financial discipline. According to the CU's Vice-President, "the employees are more concerned with the profitability of the network, whereas elected members are more preoccupied by the social performances of their local financial cooperative".[3] As a consequence, tensions between financial and social objectives, if any, translate into a central-versus-local perspective.[4]

The main activity of the LC's is credit provision. On average, loans to women have about half the size of those granted to men. In line with the microfinance literature, we measure social performances by means of average loan size and percentage of female borrowers. The loan-granting decisions are made jointly by the local board and the manager who is quasi-independent from this board. Our first results show that female board members favor social orientation in loan granting, even when controlling for membership gender composition. These results confirm previous evidence

[3] Interview conducted on the 21st of January 2010.
[4] Desrochers and Fischer (2005) and Nair and Kloeppinger-Todd (2007) find that FCs that are more closely integrated are also more financially sustainable.

that firms with a higher fraction of women on the board exhibit more social and ethical orientations (Smith *et al*., 2001; Bernardi *et al*., 2009, Krüger, 2010).

Regarding governance issues, our results are twofold. First, we show that the CU tends to send male managers to LCs with female-dominated boards. We interpret this as evidence of the aim of the CU management to curb social biases that might hinder the consolidated financial situation of the network. Second, our regressions indicate that, when associated with female-dominated boards, male managers mitigate the social orientation while female managers enhance this orientation. More puzzling is the influence of female managers associated with male-dominated boards. In this case, the presence of a female manager increases the average loan size and reduces the proportion of loans granted to women. These findings lead us to conclude that female managers tend to align their objectives on those of the local board even though their hierarchy is at the CU level. Female managers avoid as much as possible conflicts with their local boards. In sum, our results confirm that female managers adopt a more consensual and democratic behavior than their male counterparts.

The rest of the paper is organized as follows. Section 2 depicts the situation of financial cooperatives in Senegal from a gender perspective. Section 3 presents our dataset. Section 4 offers regression analysis. Section 5 concludes.

2. Women and Financial Cooperatives in Senegal

All over the developing world, FCs contribute to female access to financial services. According to Fletschner (2009), among the three major sources of credit in rural Eastern Paraguay (State banks, wholesalers and FCs) only FCs serve women. Likewise, Boucher *et al*. (1993) observe that Guatemalan credit unions do not suffer from major gender biases, which contrasts with other financial institutions in Guatemala. Mersland (2009) shows that worldwide FCs are gender balanced with a 51.9% average share of female members. Nevertheless, microfinance institutions with for-

profit and NGO statuses do better than FCs by serving 55% and 82.1% of female clients, respectively. D'Espallier *et al.* (2011) confirm that NGOs are more likely to adopt women-friendly policies than FCs and fort-profit MFIs.

The situation of women in Senegal compares favorably to the situation in the rest of the developing world. Gender inequalities in West Africa are lower than elsewhere (Deaton, 1997). Senegalese women are financially active (Lyons and Snoxell, 2005) and increasingly engage in economic activities (Guérin, 2001).[5] Female-run small businesses represent approximately one third of the informal sector in Senegal. Women routinely participate in traditional rotated savings and credits associations (ROSCAs), which enable them to borrow and save small amounts of cash.[6] ROSCAs reinforce social capital among members. In addition, ROSCAs act as an insurance mechanism against financial distress since the members help each other in case of emergency. Women in Senegal typically control their own income while remaining subordinated to men who traditionally provide the lion's share of household's income (Creevey, 1991). Economic empowerment is sometimes associated with an increase in intra-household tensions (Sow, 2003; Perry, 2005).

Despite this relatively favorable situation, women in Senegal keep facing customary patriarchal norms, which exclude them from access to both property and formal financial services (Noponen, 1991). In an effort to overcome this issue, the Government of Senegal decided to provide a special legal status for cooperatives in 1983. The aim was to democratize cooperatives and empower their female members. With hindsight, one might conclude that the impact of the legal status is mixed. On the one hand, traditional cooperatives active in the agriculture remain mostly led by males. As put by Creevey (1991, p.353), "By law, women may join the cooperatives but, in practice, they seldom do."

[5] However, the situation varies across ethnic groups. Women from originally nomadic groups, such as Peulh and Hall Peular, tend to enjoy lower responsibilities than those from Wolof and Serere groups (Creevey, 1991).

[6] ROSCA's members meet on a regular basis. In each meeting, the members contribute with a fixed amount to a common pot. This pot goes to a member designated in a strict alternation pattern. As a result, the member who gets the pot is a borrower and the other ones are savers.

On the other, in the wake of the microfinance movement a new generation of FCs[7] has come into existence. These FCs devote a special attention to women and offer them specific financial services.

The Senegalese *Union des Mutuelles du Partenariat pour la Mobilisation de l'Epargne et du Crédit au Sénégal* (UM-PAMECAS) belongs to the new generation of FCs. It is currently one of the largest networks of FCs in West Africa. In May 2010, the network made of 38 LCs was serving a total of 419,602 members providing them with micro-loans and micro-savings opportunities.[8] The consolidated outstanding loan portfolio was EUR 35.9M,[9] corresponding to the granting of 62,410 micro-loans. The globalized deposits amounted to EUR 36.6M.[10]

The history of UM-PAMECAS helps understanding its current structure. In 1996, the Canadian institution *Développement International Desjardins* (DID) undertook a microfinance project to supply financial services to the poor living in the suburbs of Dakar, the capital city of Senegal. This initiative was supported by the Canadian International Development Agency. First, DID set up three LCs and grouped them under the CU to achieve economies of scale and enhance financial sustainability. In 1998, after a two-year experimental phase, UM-PAMECAS became an official institution. The network experienced a rapid growth and extended its activities beyond the Dakar neighborhoods, and notably in rural areas. The current objective of UM-PAMECAS is to cover the whole country. Both the CU and the LCs are legal entities with the FC status. In principle, LCs are free to leave the network. In practice though, they enjoy limited autonomy. So far, no LC has ever exerted its right to stand alone.

[7] To avoid confusing them with traditional cooperatives, the FCs have a specific name (« Mutuelles d'épargne et de crédit »).
[8] The savings products supplied by UM-PAMECAS include interest-free flexible savings accounts, interest-bearing deposit accounts, and a savings program combining interest-bearing savings with access to business credit.
[9] Taking into account the loans with arrears, the loan portfolio of UM-PAMECAS amounted to EUR 37.9M.
[10] For readability, we express all monetary figures in euros (EUR). The local currency is the CFA franc (CFAF), the common currency of all member states of the West-African Economic and Monetary Union. CFAF has a fixed parity with the euro (EUR 1 = CFAF 655.957).

Each LC of UM-PAMECAS has four governance bodies. First, the General Meeting brings together all the members annually, and elects its representatives to the three other bodies.[11] Second, the Board composed of nine directors meets every two months, and defines the local strategic orientations within the limits drafted by the CU. For instance, the local Board is entitled to set priorities regarding credit recovery, sensitization to cooperative spirit, and gender empowerment. Third, the local Credit Committee is composed of five elected members, and meets every week or every two weeks. This committee makes the decisions on loan granting on the basis of application files previously analyzed by credit officers.[12] Last, the Supervisory Committee is composed of five elected members. This Committee controls the operations and collects opinions and recommendations from the LC members.

The CU of UM-PAMECAS is supervised by two main bodies: the CU Board composed of the local Board chairpersons, and the CU Supervisory Committee composed of seven representatives elected by the LCs. The CU Board defines the network strategic orientations. In particular, it decides upon product design, expansion strategy, and network configuration. The CU Board appoints an Executive Committee. Since 2003, human resources are managed at the CU level for the whole network. All the LC staff is now hired and dispatched by the CU.[13] The CU is also in charge of the management information system.

3. Data and Descriptive Statistics

The period over investigation stretches from December 2006 to May 2010. Our dataset is built by bringing together information from three different files used by the managers of UM-PAMECAS. First, for each LC we dispose of the gender compositions of both total membership and governing

[11] 100 members need to be present to proceed to elections. The sizes of the local governing body are standardized all through the network. In practice however, these sizes may slightly deviate from their target values due to unexpected circumstances.

[12] This applies to the loans below EUR 4,573. The final say on larger loans (1.2% of the sample) requires the approval by the CU authorities.

[13] Before 2003, the local staff was partly recruited by local boards. Centralization is supposed to ensure the consistency of the wage policy as well as staff independence from the local authorities (Tutunji and Serres, 2005).

bodies, updated four times a year.[14] Second, we have the financial statements reported by the LCs to the CU on a monthly basis. The data includes aggregate characteristics, such as the LC's outstanding loan portfolios and total assets. Third, we possess disaggregated information on the loan beneficiaries and their credit arrangements. Based on this information, we have constructed the following variables for each LC in each month: number of loans granted, percentage of loans granted to women, percentage of total credit granted to women, and average loan size for male and female borrowers, respectively.

Overall, our dataset is made of an unbalanced panel of 1,531 monthly observations (38 LCs over 42 months). Altogether, the 38 LCs have granted 212,856 loans over the period under study. We have taken out the few group loans and those for which the sex of the borrower is unclear, which leaves us with a total of 201,093 loans.

Appendix A features detailed information on the LCs. The typical staff of a LC includes one manager, one chief cashier, four cashiers and three credit officers. The manager supervises the operations, the chief cashier is in charge of the accounting, the cashiers take care of the financial transactions with members, and the credit officers analyze the credit demands and subsequently enforce repayment. Overall, the LC staffs are gender balanced. In 2010, 51% of the LC employees were female. However, women are under-represented in the top managerial position (29%). This gender unbalance is more pronounced in large LCs.

All over the world, women are poorer than men on average. Senegal is no exception to the rule. To address this reality, UM-PAMECAS has designed a special credit product targeting poor women. The so-called *AFSSEF*[15] loans are offered to women who are less able to provide collateral. In addition, UM-PAMECAS proposes various credit arrangements grouped into four categories: small-

[14] More precisely, we have relevant information for the following months: December 2006; June, September, November, and December 2007; June, September, November, and December 2008; May, June, September, November, and December 2009; February, April and May 2010. In our analysis, we adopt the conservative assumption that the composition of the governing bodies remains constant until a change is reported in the database.

[15] AFSSEF means "Access to financial services for Senegale women" (in French : "*Accès des Femmes Sénégalaises aux Services Financiers*").

business loans, personal loans, *CFE*[16] commercial loans, and so-called "*In Fine* loans" subject to a bullet repayment.[17] The credit officers are in charge of directing loan applicants toward the loan type that fits their needs. Table B1 in Appendix B provides the characteristics and market shares of each type of loans. Once the loan category is fixed, loan size is the sole credit condition tailored to the applicant's profile. The loan-granting methodology adopted by UM-PAMECAS is in line with that of the bulk of the microfinance industry which typically supplies standardized short-to-medium-term loans with fixed interest rates and rigid repayment schedule (Armendariz and Morduch, 2010).

Since its creation, UM-PAMECAS exhibit a strong concern for female participation (Tall Ba and Cissé, 2009). On average over the studied period, the share of women is 52% in total membership and 65% among borrowers. However, women receive significantly smaller loans, which explains that only 49% of the total disbursed amount is allocated to women. On average, the loan granted to a female borrower is nearly half the size of the loan granted to her male counterpart.

Table 1 provides descriptive statistics first globally, then disaggregated by the gender-related board composition. In particular, it shows that 58% of the LCs operate in urban areas whereas the remaining 42% are located in peri-urban and rural areas (Table A1 in Appendix A). The average LC is ten years old, holds a total asset of EUR 1.5M and serves 10,035 members, out of which 52% are female. The mean percentage of women in the LC board reaches 36%, whereas only 32% of managers are female. LCs provide on average 139 loans per month out of which 65% go to women. However, loans to women represent only 49% of total credit. The gender-blind average loan size is EUR 692,[18] while the gender-sensitive averages are EUR 520 and 1,021 for women and men, respectively.

Table 1 reveals that most characteristics are significantly different in female- and male-dominated boards. Namely, FCs with more than 50% women on board are significantly larger than the others in terms of both total asset and number of members. Logically, female-dominated boards

[16] CFE means "Financial centre for entrepreneurs" (in French: "*Centre Financier aux Entrepreneurs*"). These relatively large loans require a business plan. They are granted at the CU level.
[17] *In Fine* loans are meant to finance agriculture, stockbreeding, and other activities that generate irregular cash flows.
[18] This represents 0.5% of the PPP Senegalese GNI per capita in 2010 (WBI, 2011).

are more likely in FCs with more female members. Interestingly, male-dominated boards still include an average percentage of 31% of women. The likelihood to have a female manager is much higher in male-dominated boards than in female-dominate ones (34% versus 22%). This striking fact will be further investigated in Table 2.

Loan allocation also depends on the board composition. Table 1 shows that LCs with female-dominated boards supply more loans, and the difference is disproportionate with respect to the difference in membership sizes. These LCs also serve more women, which results in a larger share of total credit going to female borrowers. The gender-blind average loan size is not affected by the board composition. Strikingly however, female-dominated boards tend to offer smaller loans to women and larger loans to men. Our regression analysis will provide more clues on this evidence.

Table 1. Descriptive Statistics: Global and Disaggregated by Board Composition

Variables	Global mean	Global S.D.	Mean		*t*-test
			Board > 50% women (N = 262)	Board > 50% men (N =1056)	
General characteristics					
Total asset in kEUR	1,504	727	1,880	1,410	-9.66***
# Members	10,035	5,048	12,827	9,343	-10.40***
% Female members	52	7	56	51	-10.51***
Governance					
% Women in board	36	13	56	31	-42.70***
% Female managers	32	47	22	34	3.81***
Loans					
# Loans (per month)	139	100	204	123	-12.59***
% Loans to Women	65	10	69	64	-6.79***
% Total credit to women	49	14	51	49	-1.88**
Average loan size (ALS) in EUR	692	277	675	696	1.12
ALS in EUR: Female borrowers	520	278	484	528	2.19**
ALS in EUR: Male borrowers	1,021	495	1,116	997	-3.48***

*** p <0.01, ** p <0.05, * p < 0.10

The descriptive statistics disaggregated by the manager's gender (Table 2) delivers a picture that seems to contradict the literature consensus according to which female managers are more socially oriented than their male counterparts. When compared to male managers, female ones are indeed associated with fewer loans to women and higher loan sizes for both men and women. The

combination of fewer loans to women with these loans being larger results in the insensitivity of the share of total credit to women to the manager's gender. Importantly, Table 2 confirms that female managers are more frequent in FCs with more male members and more male board members.

Table 2. Descriptive Statistics Disaggregated by Manager's Gender

Variables	Mean		*t*-Test
	Fem manager (N = 423)	Male manager (N = 1108)	
Gender			
% Female members	50	54	7.68***
% Women in board	32	38	7.99***
Loans			
# Loans (per month)	138	129	-1.69**
% Loans to Women	64	66	3.73***
% Total credit allocated to women	50	50	0.46
Average loan size (ALS) in EUR	767	653	-6.43***
ALS in EUR: Female borrowers	591	490	-5.79***
ALS in EUR: Male borrowers	1,064	988	-2.646***

*** p <0.01, ** p <0.05, * p < 0.10

The figures from both Tables 1 and 2 point out that the relationship between the manager's gender and the percentage of female board members is not random. Table 3 investigates this relationship further by means of a contingency table. A Pearson test confirms that female managers are significantly more frequently associated with male-dominated boards, and vice versa ($p < 0.01$).

Table 3. Manager's Gender and Board Composition: Contingency Table

	Board > 50% men	Board > 50% women	Total
Male Manager	694 (719.6)	204 (178.4)	898
Female Manager	363 (337.4)	58 (83.6)	421
Total	1,057	262	1,319

Expected frequencies given in parentheses

Pearson independence test: $\chi^2(1) = 14.39$ ($p < 0.01$)

This result suggests that the CU makes strategic staff allocation and preferably sends male managers to FCs with female-dominated boards. While the CU hardly influences the board composition, it fully controls the allocation of the managers. In addition, the CU knows the board

composition when choosing the manager its sends to an LC.[19] Hence, we interpret Table 3 as evidence of the aim of the CU management to curb social biases induced by female board members. Such biases might indeed hinder the consolidated financial situation of the network. Being in charge of the financial sustainability at the network level, the CU is logically concerned with restraining local FCs from adopting costly social orientations. As a consequence, the one-dimensional statistics provided in Table 2 could be misleading. Further econometric analysis is needed to disentangle the social impact of female managers from those driven by board members. The next section is devoted to that task.

4. Gender and Social Performances

To investigate the impacts on the social performances of both the manager's gender and board composition, we use fixed-effect (FE) panel estimation. Controlling for the stable LC characteristics, whether observable and not, reduces the risk of omitted-variable biases. Our data covers four years only. Therefore, we use a FE model based on mean-differenced data – also referred to as within-estimation model (Hausman and Taylor, 1981) – in order to avoid losing one period of observations as would for instance be the case had we opted for an FE model in differences. Moreover, the within-method removes panel-level averages from each side of the model, which makes the LC-specific effect disappear.

A test performed in Section 3 has shown that the gender of the manager is not independent from the board composition. Female managers are more frequent in FCs with male-dominated boards. Hence, to capture the impact of the manager's gender on social performances, we need to take into account its interactions with the gender composition of the board as well. To this purpose we use three dummy variables, the reference modality being the combination of a male-dominated board with a male manager. The model writes:

[19] Still, the board composition can change while a manager is in place.

$$y_{it} = \beta_1 \, (board > 50\% \, women \, * female \, manager)_{it} + \beta_2 \, (board > 50\% \, men \, * female \, manager)_{it} + \beta_3 \, (board > 50\% \, women \, * male \, manager)_{it} + + \sum_{k=1}^{K} \gamma_k \, (control \, k)_{it} + \beta_4 \, year_t + \eta_i + \varepsilon_{it} \quad (1)$$

where y_{it} represents the social performance of interest observed for LC *i* at time *t*, $year_t$ represents the year-specific dummies,[20] h_i is the LC-specific effect that captures unobserved time-invariant characteristics, and e_{it} is the idiosyncratic disturbance term. The control variables include the percentage of female members, and the size of LC proxied by total asset.[21] Model (1) allows us to analyze the variation of regressors over time within each LC as well as their variation over LC within each period. Consequently, we control for both time-invariant LC-specific variables and time-varying LC-insensitive variables.

In model (1), the explained variable is a measure of LC social performance. We capture social performances along two different dimensions. First, we consider the share of credit allocated to women, measured either in number of loans or in total credit. Second, we concentrate on average loan size, which is the typical proxy for the depth of outreach. Although these two types of performances are equally meaningful, they can be interpreted differently. Measures related to the borrowers' gender could capture some kind of "gender affinity" rather than "pure" social orientation. In contrast, gender-blind average loan size is directly linked to poverty alleviation. Nevertheless, the both types of performances are intertwined since women are poorer than men on average. To disentangle them, we will also pay attention to gendered average loan sizes.

The regression results for the five social performances are featured in Table 4. The focus of our analysis is on the impact of female managers. In this regard, regression (1) shows that the share of loans granted to women is not significantly affected by the gender of the manager. Neither is this share influenced by the board gender domination. These results rule out the "gender affinity"

[20] The reference year (omitted dummy) is 2007.

[21] In the literature, two variables are typically used to proxy FC size: the total asset and the number of members. To avoid multicollinearity, only one of these variables may be included in regressions. Here, we have favored total asset for which we dispose of accurate monthly observations. In contrast, in our database the number of members is updated only a few times a year.

hypothesis.[22] Likewise, regression (2) shows that the share of credit allocated to female borrowers is hardly affected by gender-specific variables. The only detectable impact (significant at the 10% level) is obtained in the situation where a female borrower is associated with a female-dominated board. Together, the results from regressions (1) and (2) reveal that the differences found in Tables 1 and 2 are mainly attributable to external shocks captured through year dummies. The loadings of these dummies (not reported here) indicate that the proportion of loans granted to women decreased over the years.

Table 4. Impact of Gender on Social Performances: Fixed-Effect Panel Estimation

VARIABLES	(1) % Loans to Women	(2) % Total Credit to Women	(3) Average loan size (ALS)	(4) ALS: Female Borrowers	(5) ALS: Male Borrowers
Board > 50% women	**0.00714**	**0.0350***	**-51.50****	**-8.112**	**-110.9**
***Fem manager**	**(0.0117)**	**(0.0184)**	**(23.96)**	**(23.92)**	**(68.35)**
Board > 50% men	**-0.0335**	**-0.0262**	**100.9*****	**77.76*****	**121.1*****
***Fem manager**	**(0.0248)**	**(0.0198)**	**(20.35)**	**(12.64)**	**(15.21)**
Board > 50% women	0.0129	0.00435	-11.90	-10.12	17.93
*Male Manager	(0.00824)	(0.0103)	(26.20)	(15.98)	(48.67)
% Fem members	0.0322	-0.0892	10.69	-214.6	627.5
	(0.0830)	(0.0896)	(156.3)	(135.5)	(499.9)
Total asset (in kEUR)	-1.69e-05	1.10e-05	0.0863*	0.0784	0.0619
	(1.23e-05)	(1.45e-05)	(0.0437)	(0.0476)	(0.0578)
Year dummies	YES	YES	YES	YES	YES
Constant	0.688***	0.534***	529.7***	511.4***	539.5*
	(0.0498)	(0.0560)	(114.4)	(91.20)	(282.9)
Observations	1,311	1,311	1,311	1,309	1,309
# id	36	36	36	36	36
R2_Within	0.113	0.0474	0.0213	0.0132	0.00716
R2 _Between	0.0338	0.0111	0.200	0.193	0.0160
R2_Overall	0.0623	0.0209	0.0749	0.0726	0.0134
F	26.34***	9.012***	27.10***	9.221***	28.29***

*** p <0.01, ** p <0.05, * p < 0.10

In contrast, regression (3) in Table 4 shows that female managers have a strong and significant impact on average loan size. However, this impact is negative when the female manager is associated with a female-dominated board and positive when she is associated with a male-dominated board.

[22] Agier and Szafarz (2013) also reject this hypothesis. Their database comes from a Brazilian MFI.

Again, regressions (4) and (5) exclude any gender-specific impact on loan size. The loadings of gender-sensitive variables in the male and female average loan size equations exhibit same signs and significance levels for all governance configurations. The loadings are slightly larger (in absolute value) for men simply because men benefit from larger loans in general.

Table 5. Impact of Gender on Social Performances: Using a 33% Threshold

VARIABLES	(1) % Loans to Women	(2) % Total Credit to Women	(3) ALS	(4) ALS: Female Borr	(5) ALS: Male Borr
Board > 33% women *Fem manager	**-0.0202** **(0.0208)**	**-0.0115** **(0.0238)**	**11.81** **(35.18)**	**15.04** **(30.50)**	**-5.106** **(56.19)**
Board < 33% women *Fem manager	**-0.0147** **(0.0228)**	**0.000542** **(0.0214)**	**66.66**** **(28.07)**	**56.11***** **(18.58)**	**71.60*** **(38.26)**
Board > 33% women *Male manager	0.0105 (0.0112)	-0.00137 (0.0166)	-6.900 (33.13)	-22.65 (39.13)	25.81 (54.27)
% Fem Members	0.0335 (0.0838)	-0.0800 (0.0901)	0.729 (158.8)	-213.3 (135.7)	596.6 (499.5)
Total Asset (in kEUR)	-1.32e-05 (1.35e-05)	1.97e-05 (1.47e-05)	0.0812* (0.0439)	0.0753* (0.0439)	0.0461 (0.0523)
Year dummies	YES	YES	YES	YES	YES
Constant	0.677*** (0.0501)	0.513*** (0.0550)	556.9*** (113.1)	532.3*** (86.61)	591.8** (272.6)
Observations	1,311	1,311	1,311	1,309	1,309
R-squared	0.111	0.046	0.020	0.013	0.006
# id	36	36	36	36	36
R2_Within	0.111	0.0457	0.0196	0.0132	0.00590
R2 _Between	0.0732	0.0539	0.149	0.184	0.00127
R2_Overall	0.0779	0.0409	0.0518	0.0641	0.00260
F	16.81***	7.55***	4.70***	4.60***	2.01*

*** p <0.01, ** p <0.05, * p < 0.10

Next, to check whether the majority threshold of 50% is necessary to female board-members to bring their social agenda to the front, we use the 33%-threshold instead of the 50%-threshold used in Table 4. Table 5 shows that LCs with both a female manager and a board with less that 33% of female members provide larger loans. However, 33% of female board members seem insufficient to drive a significant impact.

Last, we capture the board composition by means of the percentage of women sitting in the

board instead of threshold-based variables. Although the signs of the loadings in Table 6 are consistent with those from Table 4, the regressions deliver insignificant estimates. The results suggest that the influence of female board-members is conditioned on having reached the majority control threshold in the board. This is line with the fact that corporate control is a discontinuous variable rather than a continuous one (Chapelle and Szafarz, 2005).

Table 6. Impact of Gender on Social Performances: Using the Share of Women in the Board

VARIABLES	(1) % Loans to Women	(2) % Total credit to Women	(3) Average loan size (ALS)	(4) ALS: Female borrowers	(5) ALS: Male borrowers
% Women in LC board	0.0413	-0.00264	-44.77	-48.28	-109.9
	(0.0503)	(0.0491)	(116.3)	(88.43)	(224.7)
Fem manager	-0.0194	-0.0277	80.88	59.78	176.3*
	(0.0373)	(0.0340)	(74.06)	(58.32)	(99.04)
% Women in LC board * Fem manager	-0.00844	0.0617	-86.68	-27.22	-374.4
	(0.0689)	(0.0794)	(183.5)	(150.9)	(258.5)
% Fem members	0.0341	-0.0848	-0.835	-220.7	620.2
	(0.0840)	(0.0899)	(161.5)	(136.8)	(501.6)
Total asset (in kEUR)	-1.53e-05	1.39e-05	0.0748	0.0717	0.0429
	(1.32e-05)	(1.50e-05)	(0.0460)	(0.0467)	(0.0581)
Year dummies	YES	YES	YES	YES	YES
Constant	0.670***	0.525***	578.1***	546.8***	631.4**
	(0.0585)	(0.0617)	(125.1)	(99.14)	(275.2)
Observations	1,311	1,311	1,311	1,309	1,309
R-squared	0.111	0.046	0.018	0.012	0.007
# id	36	36	36	36	36
R2_Within	0.111	0.0459	0.0185	0.0122	0.00667
R2 _Between	0.0548	0.0251	0.151	0.186	0.00405
R2_Overall	0.0668	0.0277	0.0499	0.0618	0.00129
F	17.20***	8.597***	2.540**	2.271**	1.731

Overall, our results stress that female managers pay close attention to harmonious collaboration with local board members. They tend to follow the preferences of the majority of board members they are working with and refrain from prioritizing the financial objective of the CU they are appointed by. An alternative explanation could be that female managers are intrinsically socially-oriented but are powerless when associated with a male-dominated board. This scenario is however inconsistent with the facts. Indeed, female managers associated with male-dominated boards grant

significantly higher loan sizes than male managers associated with male-dominated boards (the reference modality). Female manager are thus efficient in their work but they align their objectives on those of their local boards. In contrast, the behavior of male managers is insensitive to the composition of local boards.

5. Conclusion

Despite a women-friendly orientation associated with democratic principles, the governing and executive bodies of financial cooperatives remain predominantly male-dominated, though with a significant minority of women involved. This paper brings new insights on the impact of gender in the management of hybrid organizations by exploiting a unique data released by a network of financial cooperatives in Senegal. The main finding of this paper is that female managers tend to align their objectives on those of the local boards even though their hierarchy is located at the central level.

Our empirical strategy takes advantage of the double bottom-line of financial cooperatives to identify the line of action female top managers follow in their everyday practice. The fact that female managers behave in accordance with local authorities could explain why the central union is less keen to hire female top managers than male ones. Consistently with the facts, the central union is also tempted to send female managers to local cooperatives with male-dominated boards. Indeed, male-dominated boards are more rigid on financial discipline. Hence, sending female managers to places where men hold the majority of the board is a way to push these managers to serve the central union's best interests.

The literature provides several rationales for the behavioral evidence detected in this paper. Sturges (1999) observes that female managers are less inclined than men to define career success in terms of hierarchical progression. Moreover, female managers tend to adopt a participative style and use their relational skills (Buttner, 2001). When they depart from this gender-role model and opt for

a more confrontational leadership style, female managers are judged by their subordinates more severely than their male colleagues (Korabik *et al.*, 1993; Eagly and Karau, 2002). All these arguments could explain why female managers refrain from hurting the feelings of the local board members despite the fact that these board members have barely any impact on their careers.

Interestingly, our findings partly contradict the common wisdom according to which, under similar circumstances, women are systematically more socially oriented than men. While female-dominated boards enhance social loan allocation policies, female managers associated with male-dominated boards do not mitigate the financial discipline imposed by the board. In fact, they reinforce it. Admittedly, our database is limited to a single network of financial cooperatives operating in Senegal. This restricts the external validity of our conclusions. Moreover, cultural characteristics and social norms vary across countries. Further research could investigate how female top managers influence the social performances of hybrid institutions in both developed and developing countries.[23]

This paper concentrates on tensions between social and financial performances from a gender perspective. Alternatively, we could have directly questioned the alignment of male and female managers with the objectives of their employer, the central union. However, beyond securing the financial sustainability of the whole network, the objectives of the central union is not clear-cut. Evidently, profit seeking is not the sole driver of this organization. Moreover, the governance of cooperatives is knowingly more complex than that of for-profit firms (Cornforth, 2004). For all these reasons, it is difficult, if not impossible, to assess the alignment of top managers' behavior with their employer's objectives. The best we could do is to compare the on-field interactions of male and female managers with their local board members. Admittedly, this leaves room for further investigation on the efficiency of top managers in cooperatives.

Worldwide non-profit and hybrid organizations are typically less reluctant than for-profits to hire female top managers. The sector is also known for producing higher job satisfaction than for-

[23] The book "Women in Management Worldwide" edited by Davidson and Burke (2011) proposes interesting international comparisons. However, the only African country present in the survey is South Africa.

profit firms (Benz, 2005). So far, these two features have been observed independently. Possibly, they are linked. The female managers' tendency to behave consensually can indeed contribute to enhancing overall satisfaction not only among co-workers but also among members of governing bodies.

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Appendix A: Characteristics of UM-PAMECAS LCs

Table A1. General Characteristics (in May 2010)

LC	Region	Location	Date of creation	Total asset (in kEUR)
MECYD	Rufisque	Rural	1998	901
MEC Bargny	Rufisque	Periurban	1996	1,503
MECREST	Rufisque	Periurban	1996	989
CEC/Plateau	Rufisque	Periurban	1996	1,408
MECZOR	Rufisque	Periurban	1996	1,257
MERCMBAO	Pikine	Periurban	1999	975
MECTG	Pikine	Urban	1999	1,178
MECDIAM	Pikine	Urban	1996	1,545
MECZOMA	Pikine	Periurban	1996	2,011
MECZONY	Pikine	Urban	1996	1,714
MECIB	Pikine	Urban	1997	2,570
MECGR	Pikine	Urban	1996	1,128
MECNI	Pikine	Urban	1996	1,629
MECMAC	Pikine	Urban	2000	1,280
MECKAW	Guédiawaye	Urban	1996	1,255
MECZON	Guédiawaye	Urban	1996	1,503
MECZOG1	Guédiawaye	Urban	1996	1,444
MECREL	Guédiawaye	Urban	1997	942
MECPAG	Guédiawaye	Urban	1996	2,135
MEC OUAKAM	Dakar	Urban	1997	2,593
MECNGOR	Dakar	Urban	1999	737
MECSOM	Dakar	Urban	1998	963
MECBT	Dakar	Urban	1998	2,500
MEC/CDGY	Dakar	Urban	1999	2,281
MECPA	Dakar	Urban	1999	1,661
MECY	Dakar	Urban	2006	2,055
MECMBOUR	Thies	Periurban	2003	3,410
MECTHIES	Thies	Urban	2004	4,758
MEC/TIVAOUANE	Thies	Periurban	2004	1,599
MEC Touba	Touba	Urban	2007	1,630
MEC Louga	Louga	Periurban	2006	1,454
MEC Dahra	Louga	Rural	2006	860
MEC Kebemer	Louga	Periurban	2006	945
MECSL	Saint-Louis	Urban	2006	1,212
MECRT R-T	Saint-Louis	Rural	2006	705
MEC NDIOUM	Saint-Louis	Rural	2006	651
MEC/OUROS	Matam	Periurban	2009	511
MEC KAOLACK	Kaolack	Periurban	2009	376
Mean Total				1,533

Table A2: Governance and Social Characteristics (May 2010)

	Members		Governance		Loans		ALS		
LC	Total	% Women	% Women in the board	Fem manager	% Loan to women	% Credit to women	All borrowers	Female borrowers	Male borrowers
MECYD	4,626	0.47	0.32	1	0.49	0.24	508,924	254,872	756,625
MEC Bargny	12,644	0.52	0.16	0	0.68	0.29	283,960	153,189	555,787
MECREST	10,531	0.53	0.32	1	0.53	0.33	495,975	312,097	699,554
CEC/Plateau	9,942	0.57	0.58	0	0.63	0.39	473,230	310,563	748,214
MECZOR	10,037	0.48	0.21	1	0.67	0.55	387,832	335,197	495,946
MERCMBAO	7,240	0.46	0.36	0	0.70	0.63	617,561	555,614	758,800
MECTG	6,519	0.49	0.32	0	0.29	0.24	371,403	325,386	389,809
MECDIAM	13,973	0.55	0.71	1	0.55	0.41	445,113	326,020	592,848
MECZOMA	17,184	0.46	0.19	0	0.60	0.27	522,482	240,887	948,579
MECZONY	15,907	0.51	0.53	0	0.68	0.45	431,343	284,448	744,866
MECIB	20,212	0.58	0.37	0	0.64	0.63	601,422	594,669	613,667
MECGR	9,875	0.51	0.36	0	0.45	0.23	541,011	278,125	755,612
MECNI	14,589	0.49	0.17	0	0.75	0.67	366,361	327,046	483,243
MECMAC	7,387	0.55	0.18	1	0.58	0.39	691,781	472,024	989,516
MECKAW	10,737	0.46	0.36	0	0.58	0.31	563,137	299,153	925,349
MECZON	11,758	0.53	0.26	1	0.58	0.27	441,570	218,000	752,083
MECZOG1	11,673	0.49	0.21	1	0.64	0.39	530,310	321,181	897,561
MECREL	7,121	0.53	0.37	0	0.72	0.66	471,739	433,000	573,684
MECPAG	14,560	0.56	0.45	0	0.64	0.74	898,103	1,035,714	649,516
MEC OUAKAM	13,785	0.47	0.00	1	0.63	0.65	636,553	659,375	597,429
MECNGOR	4,147	0.38	0.37[(a)]	0	0.55	0.47	703,387	607,353	820,000
MECSOM	8,345	0.47	0.29	1	0.66	0.51	514,318	396,552	742,000
MECBT	19,228	0.51	0.17	1	0.57	0.61	651,667	701,471	586,538
MEC/CDGY	18,336	0.50	0.33[(a)]	0	0.70	0.68	595,608	575,721	642,614
MECPA	15,210	0.54	0.33	0	0.74	0.50	679,009	459,295	1,291,071
MECY	5,819	0.38	0.00	0	0.49	0.36	734,367	579,872	885,000
MECMBOUR	24,055	0.48	0.47	0	0.60	0.33	602,275	337,311	991,543
MECTHIES	29,825	0.57	0.58	1	0.55	0.32	400,249	259,929	568,921
MEC/TIVAOUANE	10,772	0.59	0.32	0	0.52	0.27	324,315	190,132	470,000
MEC Touba	10,857	0.83	0.36	0	0.46	0.25	329,344	230,344	415,232
MEC Louga	5,569	0.49	0.36	0	0.47	0.24	657,059	398,750	886,667
MEC Dahra	4,141	0.62	0.45	0	0.68	0.57	362,338	302,034	489,647
MEC Kebemer	4,000	0.51	0.27	0	0.47	0.41	378,148	354,365	398,958
MECSL	5,634	0.66	0.55	0	0.55	0.27	468,262	315,000	652,656
MECRT R-T	3,585	0.53	0.10	0	0.58	0.27	386,813	263,208	559,211
MEC NDIOUM	3,371	0.55	0.45	0	0.60	0.49	341,346	279,032	433,333
MEC/OUROS	1,621	0.44	.	0	0.41	0.26	345,187	221,104	432,046
MEC KAOLACK	1,852	0.62	.	0	0.57	0.28	531,522	315,385	812,500
Mean Total	10,702	0.52	0.33	0.29	0.58	0.42	507,501	382,195	684,385

[(a)] Data from December 2009.

Appendix B: Additional Descriptive Statistics

Table B1. Loan Typology

Loan	Purpose	Share	Average loan size (in EUR)	Average duration (in days)	Interest rate
AFSSEF	Specific loans with lower guarantee to facilitate female members access to loans	48.1%	309	346	20%[a]
Commercial	Regular loans for commercial activities	33.2%	810	376	20%
Personal	Loans for personal purpose	11.6%	824	579	20%
CFE	Larger loans for small enterprises	1.2%	9,504	648	20%
In Fine	Loans with bullet repayment to finance stockbreeding and agriculture	2.9%	522	202	14%[b]

[a] decreasing balance installments
[b] flat balance installments

Table B2. Correlation Matrix

		1	2	3	4	5	6	7	8	9
% Loans to women	1	1								
Total asset	2	-0.03	1							
# Loans	3	0.08***	0.64***	1						
% Women in board	4	0.16***	0.17***	0.31***	1					
Female manager	5	-0.09***	0.18***	0.04	-0.22***	1				
% Female members	6	0.41***	0.01	0.33***	0.36***	-0.19***	1			
% Credit to women	7	0.62***	0.01	-0.06**	0.003*	0.05*	0.05**	1		
ALS	8	-0.32***	0.21***	-0.19**	-0.07**	0.16***	-0.40***	-0.03	1	
ALS : Female borrowers	9	-0.16***	0.18***	-0.19***	-0.11***	0.15***	-0.35***	0.34***	0.83***	1
ALS : Male borrowers	10	-0.07***	0.18***	-0.11***	0.06**	0.07***	-0.21***	-0.25***	-0.74***	0.32***

Pearson correlation coefficients: *** p <0.01, ** p <0.05, * p < 0.10

Table B3. Time-Variations

Year	Total asset (in kEUR)	% Women in board	% Fem members	% Fem Manager	# Granted loans (per month)	% Female borrowers	% credit to women	ALS	ALS: Female borrowers	ALS: Male borrowers
2006	1,082	0.388	0.553	0.229	174	0.734	0.539	379,548	308,676	581,468
2007	1,244	0.374	0.534	0.223	125	0.691	0.495	435,426	334,782	651,156
2008	1,491	0.364	0.530	0.306	140	0.673	0.475	449,624	342,835	674,899
2009	1,491	0.358	0.523	0.297	129	0.630	0.445	450,653	335,098	654,240
2010	1,474	0.327	0.512	0.289	122	0.596	0.416	487,484	360,214	687,221
Full period	1,411	0.360	0.527	0.276	131	0.657	0.466	449,023	339,701	661,609

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